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Teacher Scaffolding in Kindergarten Drawing Activities: A Rural-Urban Comparison in Jiangxi Province, China

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Abstract: Teacher assistance does not necessarily constitute scaffolding. In drawing activities, support must be interpreted through children's intentions, responses and subsequent control. This article develops a rural–urban comparison framework for kindergarten teaching in Jiangxi Province, China. It distinguishes verbal, demonstrative, material, affective and peer-related support from the process characteristics of contingency, fading and transfer of responsibility. An event-based design links child cues, teacher responses, child action and subsequent adjustment within the parent study's observation framework. Independent synthetic counts demonstrate the importance of observation-time and eligibility denominators. Hypothetical episodes distinguish brief demonstration from takeover and attentive waiting from ignored requests. The framework contributes operational rules for comparing support without equating more intervention or more open questions with higher quality. Actual group differences and sustained learning outcomes require original records and further evidence.

Keywords: Kindergarten; Drawing Instruction; Scaffolding; Rural-urban Comparison; Teacher-child Interaction; Fading; Jiangxi.

1. Introduction

1.1. Assistance and Interaction

Teachers may help children draw through questions, demonstrations, materials and reassurance. The same form can serve different functions. A demonstration may answer a tool difficulty or enforce a uniform image. A question may clarify a child's intention or solicit an adult's preferred answer. Comparison therefore needs to move beyond counts of what teachers do.

Scaffolding directs attention to whether assistance responds to a learner's current activity and changes with subsequent performance. Drawing admits multiple legitimate outcomes. A more recognisable image or faster completion is therefore insufficient evidence of effective support. Children's purposes and opportunities to continue matter to interpretation. [1]

Rural–urban location is an entry point for examining conditions and practices, not a presumed hierarchy. Less assistance may reflect independence or unmet need. More assistance may reflect responsive adaptation or takeover. The interaction sequence is necessary to distinguish these possibilities.

1.2. Questions and Scope

The study asks how support forms differ across settings, whether interactions show contingency, fading and transfer of responsibility, and how activity structure and institutional conditions help explain patterns and counterexamples. Unlike the related assessment article, it centres on real-time creation. Unlike the PCK article, its primary evidence concerns enacted interaction rather than scenario reasoning. Shared parent data require explicit disclosure and distinct analyses.

2. Conceptual Foundation

2.1. Defining Scaffolding

Wood et al. (1976) provide a foundational account of tutoring. Their task was not open-ended drawing, so its success criteria cannot simply be imported into arts education. Van de Pol et al. (2010) identify contingency, fading and transfer of responsibility as central characteristics. Using a supportive strategy alone does not establish those characteristics.

This framework first codes an observable support action and then evaluates process evidence across the event. Contingency concerns adjustment to a child's intention or response. Fading concerns reduced assistance when appropriate, rather than abrupt departure. Transfer concerns renewed child choice or action, not merely teacher silence. When the record is incomplete, the process remains unclassifiable.

2.2. Drawing and Children's Meaning

Frisch (2006) examines teacher support and children's responses in preschool drawing, providing a concrete sociocultural setting for interaction research. Drawing-based inquiry also emphasises children's accounts alongside visual work (Einarsdottir et al., 2009). An adult's perceived problem with colour or proportion need not be the problem the child wishes to solve.[2]

Silence does not automatically indicate disengagement, and more speech is not the only evidence of participation. Trying a line, selecting another material, pointing or declining to share can communicate intention. These actions should be preserved in observation rather than converted into a single verbal-participation score.

2.3. Context and Comparison

Resources, class size and professional learning may differ across settings but do not determine interaction automatically. Low-cost substitution can support expression, while abundant supplies can serve copying. Free drawing, themed lessons and tool exploration also provide different support opportunities. Their composition must be examined before attributing observed contrasts to location.[3]

3. Design and Data Structure

3.1. Parent and Observation Samples

The researcher confirms 60 kindergartens, thirty in each location, 480 valid teacher questionnaires with 240 per location, and sixty institutional forms. Twelve intensive kindergartens, six per location, contributed seventy-two observations. Adult interviews comprise twenty-eight teachers and approximately twelve leaders or professional-learning coordinators. Unique counts must be checked rather than turning approximate figures into exact totals.

The observation design is twelve kindergartens by two classroom observation units by three occasions. This yields twenty-four repeatedly observed classroom units. It does not establish twenty-four unique teachers without a teacher–class–occasion linkage table. Changing teachers and co-teaching require separate identifiers. Child counts, work samples and conversations must likewise be reported independently.

Micro-analysis requires recoverable interaction sequences. If some observation records contain only general ratings, events cannot be reconstructed by invention. The usable subset and reasons for exclusion must be reported, with supplementary recording where justified. The parent questionnaire does not substitute for missing classroom behaviour.[4]

3.2. Levels and Sources

Events are nested in occasions, classroom units and kindergartens; teachers may cross classroom boundaries, and children may recur across events. Anonymous identifiers and time markers should link records. Questionnaires and institutional forms describe context, while interviews explain particular choices. The statistical structure must follow verified linkages rather than assume that every event is independent.

3.3. Event Boundaries

An event begins when a teacher responds to an identifiable child or group intention, difficulty or participation cue. It ends when that issue temporarily closes, an unrelated activity begins or the record is interrupted. Multiple questions can belong to one event. A whole-class demonstration is one collective event, not a separate event for every child.

Records preserve the cue, teacher action, child response and subsequent adjustment. Proactive support is included with its observable basis or a missing-cue label. Ending states include independent continuation, continued dependence, takeover, chosen stopping, task change and interruption. These are descriptions, not a ranking of children. Boundary rules should be settled through trial coding and not changed to improve a preferred result.[5]

4. Coding and Analysis

4.1. Form, Function and Process

Support forms include verbal, demonstrative, material or environmental, affective or participation-related, and peer-related actions. Forms may overlap. Functions separately identify observation, conception, operation, reflection or participation issues. Positive language without a specific cue remains general interaction rather than automatically receiving a contingent-scaffolding code.

Process coding asks whether the teacher identifies a need, adjusts support to the response, reduces help when appropriate, returns control and preserves the child's intention. Each requires explicit evidence and an unclassifiable category. Absence of fading can be appropriate while help remains necessary. Safety interventions are coded separately so that immediate protection is not misclassified as pedagogical failure.

A change in materials is not necessarily an adaptation unless its relation to the child's response can be established. Accepting a suggestion does not prove its suitability, and refusing it does not automatically indicate failure. The framework preserves children's choices and uncertainty rather than treating agreement as the sole success criterion.[6]

4.2. Coding Quality

Trial materials should cover different activities and both settings. Independent coders first examine agreement about event identification and then about categories. Reporting only agreement on already negotiated events overlooks boundary uncertainty. Appropriate coefficients, raw agreement and rare-category limitations should be explained. Disagreements should produce documented rule revisions.

Missing sound, occlusion and unclear intention must be recorded. Difficult events should not be removed merely to improve agreement. No event total, reliability coefficient or internal consistency statistic is supplied without original coding. A checklist of different behaviour forms is not validated simply by calculating an alpha coefficient.

4.3. Denominators and Inference

Event rates use valid observation minutes and can be expressed per thirty minutes. Form proportions use support events. Fading and transfer use separately eligible events where the relevant process can be judged. Response-to-request rates require identifiable requests as their denominator. These quantities answer different questions and should not become an unvalidated overall quality score.

Analysis should first describe occasion or classroom distributions, valid duration, activity type and age-group composition. Counts may require exposure offsets and attention to overdispersion. Conditional proportions require accommodation of repeated teachers and classes. With only twelve intensive kindergartens, complex models or ordinary asymptotic cluster corrections may be unstable. A justified small-sample approach or primarily descriptive comparison may be preferable.[7]

The sixty-kindergarten questionnaire does not expand the representativeness of the observed cases automatically. Claims concern the intensive sample and its selection process. More events cannot compensate completely for a small number of institutions. Raw differences in event totals must not be interpreted before checking observation time and opportunity.

4.4. Interpretation and Ethics

Event-based interviews would ask why teachers entered, how they understood need, why they continued or withdrew, and whether they noticed refusal. Thematic analysis retains discrepancies between accounts and observation (Braun & Clarke, 2006). Integration connects event patterns with conditions and child perspectives without using interviews to manufacture causal evidence (Fetters et al., 2013).

Existing ethics permission must cover micro-analysis and event review, with amendments where needed. Kindergarten

permission does not replace teacher, guardian and child permissions. Public reproduction requires additional authorisation. Safety action is not delayed for research. Shared dissertation and article records must be disclosed, and hypothetical examples must never be presented as quotations.

5. Synthetic Illustration

5.1. Equal-time and Conditional Comparisons

The following independent example contains 120 observation minutes in each setting. It is not a summary of the seventy-two actual observations. Sixty urban and forty-eight rural support events are constructed; thirty and twenty-four respectively allow a fading judgment. Forms overlap, and only two are displayed. [8]

Table 1. Synthetic scaffolding indicators

Indicator	Urban example	Rural example
Valid duration	120 min	120 min
Support events	60	48
Events per 30 minutes	15	12
Verbal support / all events	36/60 (60.0%)	24/48 (50.0%)
Material support / all events	18/60 (30.0%)	20/48 (41.7%)
Fading eligible / all events	30/60 (50.0%)	24/48 (50.0%)
Fading present / eligible	18/30 (60.0%)	9/24 (37.5%)

Using all events for the last row would yield 30.0% and 18.8%, which answer a different question. Real reporting must specify eligibility, missingness and whether exclusion differs across settings. No teacher-level or institution-level records support inference from these constructed counts, so no significance test or confidence interval is reported.

5.2. Hypothetical Episodes

In episode A, a child wishes to make changing lines but the tool repeatedly catches. The teacher checks the intended effect, demonstrates a grip on separate paper and returns the tool, observing whether the child continues or chooses another method. Scaffolding evidence depends on response-based adjustment and returned control, not on the absence of demonstration.

In episode B, the teacher adds a uniform shape directly to the child's work without checking intention and asks for copying. Assistance is visible but need diagnosis and transferred control are not. It may be coded as takeover, except where an immediate safety intervention requires separate treatment. These are authored examples, not observed participant episodes.[9]

In episode C, the teacher remains available while a child experiments, responds to a request with a brief hint and waits for the child's test. Waiting can belong to contingent support. Ignoring an explicit request and leaving cannot be interpreted as autonomy merely because intervention is low. A child's deliberate decision to stop or change work must also be distinguished from frustrated withdrawal, with an unclassifiable outcome when evidence is insufficient.

5.3. Joint Interpretation

More support might reflect harder tasks, finer adaptation or stronger control. Less fading might reflect continued need, a short record or persistent takeover. More material support might reflect resource substitution or uniform allocation. More open questions might represent inquiry, repeated pressure or predetermined answers. A joint display should pair each pattern with competing explanations and the records needed to assess them.

6. Discussion

6.1. Quality as a Changing Relationship

The framework moves from a strategy inventory to a relationship between assistance and children's action. Form provides an entry point; process explains when that form functions as scaffolding. Demonstration and questioning can have different meanings across events. Continuing help can remain appropriate when a child still needs it.

This approach also permits an intermediate conclusion: support is visible, but a complete scaffolding process cannot be confirmed. Short clips should not be forced into a binary classification to produce a cleaner rural–urban comparison. Neither an apparently positive utterance nor an unseen action warrants an unsupported quality judgment.

6.2. Opportunity and Location

Actual contrasts should be examined alongside activity composition, age group, materials, class size and recording time. Unadjusted classroom patterns and patterns under more similar tasks answer different questions. Adjustment does not automatically reveal a uniquely true location effect.[10]

Responsive substitution under limited resources and sustained dialogue with organisational support are plausible explanations to investigate rather than predetermined rural or urban strengths. Similar-resource cases with different interactions and low-resource cases with complete support sequences can test the boundaries of a simple resource account.

6.3. Professional Learning and Child Agency

Professional discussion can review a complete short event and ask what the child intended, what justified entry, how the response changed and when control could return. Teachers can propose two defensible alternatives before considering their implications. Selecting only attractive products or isolated questions misses the interactional problem.

Brief separate-paper demonstration, material adaptation and concise confirmation are possible practices, not mandatory scripts. Improvement should concern responsiveness rather than mechanically reducing teacher speech or increasing questions. Children who need more time or communicate nonverbally may benefit from pointing, material choice and shared observation.

Peer assistance also requires attention to control. A more skilled child completing another's picture is not automatically collaborative scaffolding. Teachers can support negotiation over ideas, tools and whether help is accepted. Preserving autonomy means expanding what children can do, not refusing assistance or leaving them to carry out someone else's plan.

6.4. Limitations and Further Study

No original event coding establishes Jiangxi group differences or coding reliability in this draft. Twelve intensive kindergartens limit institutional inference, while completeness, linkage and permission remain to be checked.

Future work can repeat similar activities and follow whether children continue after support decreases, including justified non-intervention.

Training evaluation would require baseline and follow-up evidence about process changes, not merely strategy counts. Claims about sustained artistic development or creativity require separate, appropriate outcomes and a time span beyond a short classroom episode. Research should report non-improvement and contradictory cases as well as apparently successful sequences.

7. Conclusion

Comparing drawing scaffolding requires support forms, contingency, fading and returned control to be analysed alongside children's intentions and actions. This article specifies levels, event boundaries, denominators and interpretation rules. Counts, form proportions and eligible-process proportions cannot substitute for one another. Synthetic illustrations demonstrate the method without establishing empirical rural–urban differences. Reviewing complete interaction sequences offers a practical direction for teacher learning, while its effects remain to be tested.

Declarations

Generative AI assisted drafting. Authors must verify sources, participant linkages, original coding and ethical permission and supply contribution, funding and competing-interest statements. Confirmed sample scope is distinct from synthetic results.

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